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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,131	07/20/2001	Matthew Zavracky	0717.1086-011	1720

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HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
530 VIRGINIA ROAD
P.O. BOX 9133
CONCORD, MA 01742-9133

EXAMINER

PRIZIO JR, PETER

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 03/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/910,131	Applicant(s) ZAVRACKY ET AL.	
	Examiner Peter Prizio	Art Unit 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21, 23-31, 33-44 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21, 23-31, 33-44 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's amendment received 17 May 2004 has been entered. The remarks have overcome the rejections recited in the prior office action mailed 17 November 2004.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 2, 6 – 12, 14, 15, 18, 20, 21 and 25 – 31** are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 5,717,422 to Fergason in view of US Patent 5,276,471 to Yamauchi et al. (Yamauchi).

4. Regarding claim 1, Fergason (Figs. 1 – 4) teaches a portable communications device (column 3, lines 33 – 35 and column 3, lines 55 – 56, where a handheld display is known as a portable) comprising: a light source (320) having a plurality of light emitting diode (LED) devices (2r, 2g, 2b, column 5, lines 20 – 23); a liquid crystal display panel (3) optically coupled to the light source (column 5, lines 33 – 35) for rendering a viewable image (column 6, lines 16 – 20) from the image data (column 4, line 66 – column 4, line 12); a lens (4, column 3, lines 29 – 39) optically coupled to the display panel (Fig. 3); and a sequential color circuit (5) coupled to the display panel and

the light source such that the light source generates a plurality of colors in sequence (column 3, lines 40 – 65), however, Fergason is lacking a wireless transceiver.

5. Yamauchi (Fig. 5) teaches a head mounted device similar to that of Fergason that includes a wireless transceiver that receives audio and image data (52 and 53 and column 3, line 50 – column 4, line 26).

6. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the multimedia head mounted display (column 3, lines 33 – 35) as taught by Fergason to include a wireless transceiver to receive audio and image data as taught by Yamauchi for the benefit of making a head mounted display system portable.

7. Regarding claim 2, Fergason, as applied to claim 1 above, further teaches the light source comprises red, green, and blue LEDs (2r, 2g, 2b, column 5, lines 13 – 32).

8. Regarding claim 6, Fergason, as applied to claim 1 above, further teaches the lens magnifies the image on the display panel (column 3, lines 32 – 35 where lenses that focus images can be a magnifier).

9. Regarding claim 7, Fergason, as applied to claim 1 above, further teaches the display panel comprises an active matrix circuit (column 6, line 56).

10. Regarding claim 8, Yamauchi (Fig. 1), as applied to claim 1 above, further teaches a camera (60, column 4, lines 25 – 26).

11. Regarding claim 9, Fergason (Fig. 3), as applied to claim 1 above, further teaches the light source comprises a plurality of red (both 2r LEDs shown), a plurality of green (both 2g LEDs shown), and a plurality of blue LEDs (both 2b LEDs shown).

12. Regarding claim 10, Ferguson, as applied to claim 1 above, further teaches the display panel (3) and the sequential color circuit (5) are positioned in a display module housing (61) and Yamauchi (Fig. 4) teaches a display module housing (21, 24, 54, 55, 48) that is attached to a transceiver (52 and 53) housing (headset shown in Fig. 5).

13. Regarding claim 11, Ferguson, as applied to claim 1 above, further teaches a head mountable mechanism (column 3, lines 33 – 35).

14. Regarding claim 12, Ferguson, as applied to claim 1 above, further teaches a control processor coupled (5) to the sequential color circuit (column 3, lines 57 – 65, where the control processor performs the sequential operation of the display and therefore the circuits are coupled).

15. Regarding claim 14, Ferguson, as applied to claim 1 above, further teaches the display panel comprises an active matrix circuit (column 6, line 56) bonded to a transmissive substrate (column 7, lines 6 – 9).

16. Claim 15 shares the same limitations as those in claim 1 and therefore the rationale for rejection will be the same, however, claim 15 further includes generating a plurality of image subframes for each color frame, each subframe representing a different color. Ferguson further teaches generating a plurality of image subframes for each color frame, each subframe representing a different color (column 5, lines 33 – 59, where, where each color illumination constitutes a separate subframe of image data and when the subframes for each color are put together a user sees a multicolor image).

17. Claim 18 shares the same limitations as those in claim 7 and therefore the rationale for rejection will be the same.

18. Claim 20 shares the same limitations as those in claim 1 and therefore the rationale for rejection will be the same.

19. Claim 21 shares the same limitations as those in claim 2 and therefore the rationale for rejection will be the same.

20. Claim 25 shares the same limitations as those in claim 6 and therefore the rationale for rejection will be the same.

21. Claim 26 shares the same limitations as those in claim 7 and therefore the rationale for rejection will be the same.

22. Claim 27 shares the same limitations as those in claim 8 and therefore the rationale for rejection will be the same.

23. Claim 28 shares the same limitations as those in claim 9 and therefore the rationale for rejection will be the same.

24. Claim 29 shares the same limitations as those in claim 10 and therefore the rationale for rejection will be the same.

25. Claim 30 shares the same limitations as those in claim 11 and therefore the rationale for rejection will be the same.

26. Claim 31 shares the same limitations as those in claim 12 and therefore the rationale for rejection will be the same.

27. **Claims 3, 16, 17, 34, 35, 38 – 44 and 46** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fergason in view of Yamauchi, as applied to claim 1 above and further in view of US Patent 5,048,077 to Wells et al. (Wells).

28. Regarding claim 3, Fergason in view of Yamauchi, as applied to claim 1 above, is lacking a telephone, however, Wells teaches a phone handset (1) which incorporates a miniature visual display in a headset (Fig. 2).

29. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the head mounted display as taught by Fergason in view of Yamauchi to incorporate telephone features as taught by Wells for the benefit of transmitting and receiving both voice and data signals (column 4, lines 31 – 38).

30. Claim 16 shares the same limitations as those in claim 3 and therefore the rationale for rejection will be the same.

31. Claim 17 shares the same limitations as those in claim 10 and therefore the rationale for rejection will be the same, however, claim 17, further includes a display module pivotably coupling a display to the telephone. Yamauchi, as applied to claim 16 above, further teaches (Figs. 1 and 4) a display module (2) pivotably coupled to the transceiver (52 and 53) by a hinge (4, column 2, lines 38 – 54).

32. Claim 34 shares the same limitations as those in claims 1, 3 and 10 and therefore the rationale for rejection will be the same.

33. Claim 35 shares the same limitations as those in claim 2 and therefore the rationale for rejection will be the same.

34. Claim 38 shares the same limitations as those in claim 6 and therefore the rationale for rejection will be the same.

35. Claim 39 shares the same limitations as those in claim 7 and therefore the rationale for rejection will be the same.

36. Claim 40 shares the same limitations as those in claim 8 and therefore the rationale for rejection will be the same.

37. Claim 41 shares the same limitations as those in claim 9 and therefore the rationale for rejection will be the same.

38. Claim 42 shares the same limitations as those in claim 10 and therefore the rationale for rejection will be the same.

39. Claim 43 shares the same limitations as those in claim 11 and therefore the rationale for rejection will be the same.

40. Claim 44 shares the same limitations as those in claim 12 and therefore the rationale for rejection will be the same.

41. Claim 46 shares the same limitations as those in claim 14 and therefore the rationale for rejection will be the same.

42. **Claims 4, 5, 19, 23, 24 and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fergason in view of Yamauchi, as applied to claim 1 above, and further in view of US Patent 4,959,642 to Sharples.

43. Regarding claim 4, Fergason in view of Yamauchi is lacking the specific structure surrounding the LED light source and therefore is lacking a reflector around the LEDs. However, Sharples (Fig. 3) teaches a reflector (42) around the LEDs (column 5, lines 53 – 58)

44. Regarding claim 5, Sharples further teaches a diffuser (44).

45. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the LED light source as taught by Ferguson in view of Yamauchi with a reflector and diffuser as taught by Sharples for the benefit of uniformly distributing light from LEDs to the display (column 5, lines 57 – 58).

46. Regarding claim 19, Ferguson in view of Yamauchi do not explicitly describe a backlight, but do provide LEDs as an illumination source (Ferguson, 2r, 2g, 2b), however, Sharples teaches the illumination source is also an LED used to backlight an LCD (column 3, lines 25 – 29).

47. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to illuminate the LCD as taught by Ferguson in view of Yamauchi using a backlight as taught by Sharples for the benefit of uniformly distributing light from LEDs to the display (column 5, lines 57 – 58).

48. Claim 23 shares the same limitations as those in claim 4 and therefore the rationale for rejection will be the same.

49. Claim 24 shares the same limitations as those in claim 5 and therefore the rationale for rejection will be the same.

50. Claim 33 shares the same limitations as those in claim 14 and therefore the rationale for rejection will be the same.

51. **Claims 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson in view of Yamauchi as applied to claim 12 above, and further in view of US Patent 5,337,068 to Stewart et al. (Stewart).

52. Regarding claim 13, Ferguson in view of Yamaguchi teach a display that has a control circuit to provide a field sequential display system that sequentially displays each color (Ferguson, column 3, lines 57 – 65), but is lacking a memory. However, Stewart teaches a field sequential display system to sequentially drive the display with successive red, green, and blue video in accordance with a sequential flashing of red, green and blue backlights. Stewart further teaches a memory (column 5, line 24).

53. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the control circuit for generating colors in sequence as taught by Ferguson in view of Yamauchi by adding a memory as taught by Stewart for the benefit of holding a frame of video information consisting of the color information to be displayed (column 5, lines 20 – 33).

54. **Claims 36 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferguson in view of Yamauchi and Wells as applied to claim 34 above, and further in view of Sharples.

55. Claim 36 shares the same limitations as those in claim 6 and therefore the rationale for rejection will be the same.

56. Claim 37 shares the same limitations as those in claim 5 and therefore the rationale for rejection will be the same.

57. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the LED light source as taught by Ferguson in view of

Yamauchi and Wells with a reflector and diffuser as taught by Sharples for the benefit of uniformly distributing light from LEDs to the display (column 5, lines 57 – 58).

Conclusion

58. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following publications have been included to show head-mounted devices and display devices and their light sources:

- a. US Patent 5,003,300 to Wells
- b. US Patent 5,040,058 to Beamon, III
- c. US Patent 5,499,138 to Iba
- d. US Patent 5,539,578 to Togino
- e. US Patent 5,581,271 to Kraemer
- f. US Patent 6,639,570 to Furness, III et al.
- g. US Patent 5,153,574 to Kondo
- h. US Patent Application Publication to Gleckman

Response to Arguments

59. Applicant's arguments, see Remarks, filed 17 November 2004, with respect to the rejection(s) of claim(s) 1-21, 23-31, 33-44 and 46 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ferguson and Yamauchi.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Prizio whose telephone number is (571) 272-7699. The examiner can normally be reached on Monday-Friday (7:30-5:00), alternating Fridays off.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on (571) 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter Prizio
Examiner
Art Unit 2674

Prizio
March 10, 2005

PP



PATRICK N. EDOUARD
PRIMARY EXAMINER